

## Preface

### The 15th International Conference on Industrial Manufacturing and Metallurgy (ICIMM 2020)

The conference was organized at the Nizhny Tagil technological Institute (branch) of the Ural Federal University (Russia). The conference has been taking place since 1990 every 2 years.

The main aim of the conference was to improve the communication between scientists and industry representatives for the introduction of new ideas and technologies. In 2020 International scientific committee included scientists and practitioners from Italy, France, Germany, Belgium, Egypt, Kazakhstan, Russia. The main partner and co-organizer of the conference is EVRAZ-NTMK JSC – large metallurgical enterprise in Nizhny Tagil, which celebrated its 80<sup>th</sup> Anniversary in June 2020. The industrial partners of the conference are Danieli, Primetals, SMS Group, Horst Wiesinger Consulting, Paul Wurth, Mishima Kosan, Exolaunch GmbH, Iridium Ltd.

Nizhny Tagil Technological Institute (branch) of the Ural Federal University was founded in 1944. Over the years the Institute has trained more than 14500 engineers. Now NTI is a large multidisciplinary higher educational institution in Nizhny Tagil. The departments of higher professional education train metallurgists, mechanical engineers, economists, IT specialists, mechatronic, electric drives and industrial automation, maintenance of equipment, civil engineering, defence industry engineers not only for the enterprises of the city, but of the whole Ural region.

Unfortunately, in 2020, the world has found itself in the state of pandemia which is unprecedented. It has naturally had a dramatic impact on the science and education activities which have been switched to online mode completely. The conference was not an exclusion, and on the 18-th of June 2020 it was successfully conducted online. 25 selected reports were presented in real time via video communication service and all other reports were presented via virtual platform – Nizhny Tagil technological Institute (branch) of the Ural Federal University YouTube channel. Online presenters had 10 minutes interval for report and 5 minutes for Q&A session after report. Also, an opportunity for discussion using comments on the YouTube channel was realized by all attendees.

About 400 attendees from the following countries have participated in the conference: Russia, Belarus, Kazakhstan, Kirgizstan, Tadzhikistan, Mongolia, China, Belgium, Egypt, Germany, Austria, France, Italy. They represented more than 50 universities, research institutions and industrial enterprises.

On behalf of the Ural Federal University we would like to thank all authors, reviewers, technical staff, heads of sections by whose efforts the conference became valuable and meaningful.

Editors-in-chief

Victor Goman and Maria Mironova

